

What is claimed is:

1. A spark plug for an internal combustion engine comprising:  
a metallic shell having an externally threaded portion;  
an insulator disposed within the metallic shell and having  
5 an axial bore;  
a center electrode disposed within the axial bore of the  
insulator; and  
a ground electrode connected to a front end face of the  
metallic shell and having an end opposite to an front end face  
10 of the center electrode;  
wherein a cross section of the ground electrode is so shaped  
as to provide a side surface at one of opposite sides which faces  
an outer circumferential periphery of the front end face of the  
metallic shell, with a narrower central side surface section than  
15 that of a side surface at the other of the opposite sides, the  
central side surface section at one of the opposite sides being  
parallelly opposite to the central side surface section at the  
other of the opposite sides.
- 20 2. A spark plug according to claim 1, wherein the cross section  
of the ground electrode is so shaped as to satisfy  $(L/2)^2 + \{t_1 + (B/2)\}^2 = (A/2)^2$ ,  $L = 2[(A/2)^2 - \{(B/2) + t_1\}^2]^{1/2}$ ,  $(A - B)/3 < t_1 \leq (A - B)/2$ ,  $2[(A/2)^2 - \{(B/2) + t_1\}^2]^{1/2} < L < 3[(A/2)^2 - \{(B/2) + t_1\}^2]^{1/2}$ ,  $(M - 1.7P) \leq A < (M - 1.5P)$ , where M is a nominal diameter  
25 of the externally threaded portion, P is a pitch of the externally  
threaded portion, A is an outer diameter of the front end face  
of the metallic shell, B is an inner diameter of the front end  
face of the metallic shell, L is the width of the surface portion  
of the inner side surface of the ground electrode, and t is a  
30 maximum thickness of the ground electrode.

3. A spark plug according to claim 1, wherein one of the opposite sides which faces the outer circumferential periphery of the front end face of the metallic shell comprises at least one corner projecting outward.
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4. A spark plug according to claim 1, wherein the side surface at one of the opposite sides which faces the outer circumferential periphery of the front end face of the metallic shell further comprises a pair of oblique side surface sections at the opposite
- 10 ends of the central side surface section.
5. A spark plug according to claim 4, wherein the side surface at the other of the opposite sides further comprises a pair of rounded side surface sections at the opposite ends of the main
- 15 side surface section.
6. A spark plug according to claim 1, wherein the cross section of the ground electrode is polygonal.
- 20 7. A spark plug according to claim 6, wherein one of the opposite sides which faces the outer circumferential periphery of the front end face of the metallic shell is bent so as to define a trapezoidal part of the polygonal cross section.
- 25 8. A spark plug according to claim 6, wherein the cross section of the ground electrode has six rounded corners, four of which are positioned at or adjacent the outer circumferential periphery of the front end face of the metallic shell.
- 30 9. A spark plug according to claim 1, wherein the cross section is rectangular and has a first pair of corners located at or adjacent the outer circumferential periphery of the front end face

of the metallic shell and a second pair of corners located at or adjacent an inner circumferential periphery of the front end face of the metallic shell, the first pair of corners being rounded with a larger radius than that with which the second pair of  
5 corners are rounded.

10. A spark plug for an internal combustion engine comprising:  
a metallic shell having an externally threaded portion;  
an insulator disposed within the metallic shell and having  
10 an axial bore;  
a center electrode disposed within the axial bore of the insulator; and  
a ground electrode connected to a front end face of the metallic shell and having an end opposite to an front end face  
15 of the center electrode;  
wherein the ground electrode has such a cross section that includes a pair of opposite sides one of which is arcuated so as to conform to an outer circumferential periphery of the front end face of the metallic shell.

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